



Addressing the challenges of climate change and biofuel production for food and nutrition security

Author(s): Tirado MC, Cohen MJ, Aberman N, Meerman J, Thompson B
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Abstract:

More than one billion people are suffering hunger and malnutrition in 2009. Food security has deteriorated since 1995 and reductions in child malnutrition are proceeding too slowly to meet the Millennium Development Goal (MDG) target of halving hunger by 2015. Three major challenges threaten current and future efforts to overcome food insecurity and malnutrition: climate and global environmental change and the consequent loss of ecosystems' services, the growing use of food crops as a source of fuel and the food and financial crises. This paper reviews and analyses the current and projected effects of climate change and bioenergy on nutrition and proposes policy recommendations to address these challenges. The first section of the review lays out the public health and socio-economic consequences of malnutrition and explores causes and costs. The paper then analyses the implications of climate and global environmental change and biofuel production for food security and nutrition, addressing strategies for adaptation and mitigation. This analysis includes a number of important socio-economic factors, besides climate change and biofuel production, that are currently impacting food and nutrition security, and that will likely contribute to future effects. The paper concludes with a series of policy proposals and recommendations to adapt to and mitigate the impacts of climate and global environmental change placing human rights in the centre of decision making. These proposals include a number of options for improving sustainability and food and nutrition security while addressing the links between climate change and bioenergy demand. (c) 2010 Elsevier Ltd. All rights reserved.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A1, SRES A2, SRES B1, SRES B2

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

Climate Change and Human Health Literature Portal

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Security

Food/Water Security: Agricultural Productivity, Nutritional Quality

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Co-Benefit/Co-Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact:

specification of health effect or disease related to climate change exposure

Malnutrition/Undernutrition

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

Model/Methodology:

type of model used or methodology development is a focus of resource

Cost/Economic, Exposure Change Prediction, Outcome Change Prediction

Population of Concern: A focus of content

Population of Concern:



populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status, Pregnant Women

Resource Type:

format or standard characteristic of resource

Research Article

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Socioeconomic Scenario: SES scenarios

Timescale:

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content